THE TAXONOMIC STATUS OF *STIPULICIDA FILIFORMIS* (CARYOPHYLLACEAE)[1]

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Stipulicida filiformis was described by Nash (1895) from plants collected near Eustis, Lake Co., Florida. He noted that the species differed from *S. setacea* (described by Michaux, 1803) in its much more slender stems, inflorescences composed of fewer flowers, i.e., one or two vs. three or more, and shorter bracts. An additional character, petal shape, was used by Small (1933) to distinguish these taxa. *Stipulicida filiformis* is frequent in open, well-drained, sandy areas of "high pineland" (forests of *Pinus palustris*) or "scrub" (forests dominated by *Pinus clausa* and various xerophytic oaks such as *Quercus myrtifolia*, *Q. geminata*, and *Q. chapmanii*); (Nash, 1895, and personal observations).

However, other botanists have not recognized these taxa as distinct (Thorne, 1954; R. Wunderlin, personal communication), and in the course of field work in central Florida the differences between the two taxa appeared to be poorly marked. Thus the variability of *Stipulicida filiformis* and *S. setacea* has been investigated, with special consideration given to the pattern of variation within peninsular Florida, the region of maximum morphological diversity within *Stipulicida.*

Populations of *Stipulicida* were observed and collected in the field. In addition, stem diameter and number of flowers/inflorescence were recorded from herbarium material. Specimens were selected from throughout the range of both species, but with emphasis on peninsular Florida.

The variation in average stem diameter (measured just below the inflorescence of five stems/specimen) was found to be continuous between ca. 0.15 and 0.55 mm, while the average number of flowers per inflorescence (three inflorescences counted/specimen) varied continuously from only one to over eight (Figure 1). It can be seen that plants with only few flowers per inflorescence tend to have more slender and filiform stems than plants with several flowers per inflorescence. Thus plants agreeing with the original description of *Stipulicida filiformis* completely intergrade with *S. setacea* in these characters. Intermediate populations were also seen in the field, e.g.,

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Judd 2448 (FLAS) and *Judd 2655* (FLAS). Petal shape and bract size also fail to separate the two supposed species.

It is of interest that filiformis-like plants appear to be limited to the Central Florida Ridge (from Marion Co. south to Highlands Co.; see *Brass 14533* (FLAS, FSU), *D. S. & H. B. Correll 52722* (USF), *Garrett s.n.*, 18 May 1948 (FLAS), *Hansen & Richardson 5766* (USF), *Judd 3148, 3156, 3211* (FLAS), *Ray et al. 10361* (USF)) although more robust individuals are also frequent within this region (Figure 2). Such filiform plants may have an adaptive advantage in the extremely xerophytic sands of the Central Florida Ridge. This region supports many endemic taxa, and distinctive ecotypes of widespread eastern species, e.g., *Bonamia grandiflora, Bumelia*

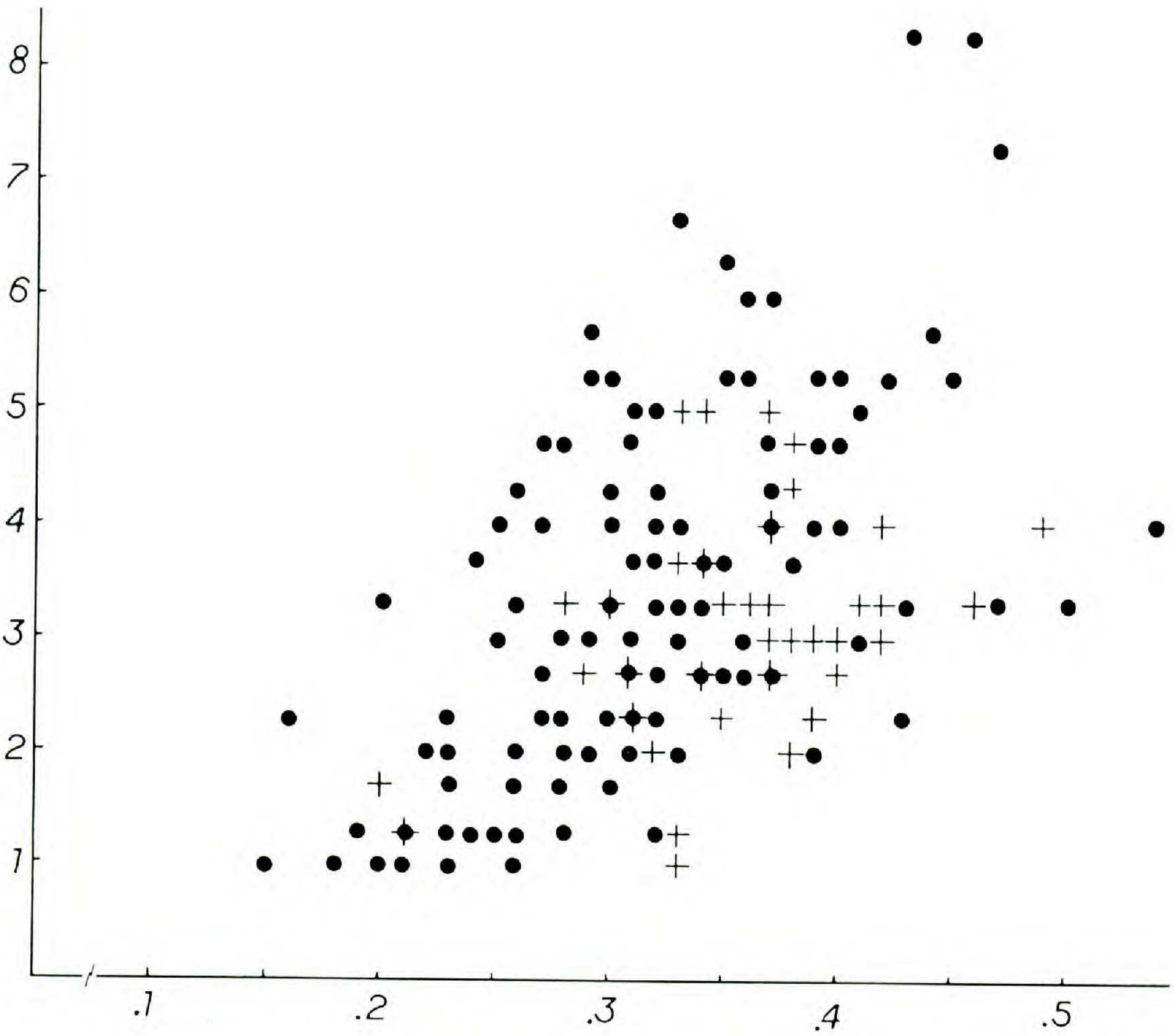

Figure 1. Scatter diagram showing variation in 3 characters within *Stipulicida setacea*. Vertical axis = average number of flowers per inflorescence; horizontal axis = average diameter of stem (measured below inflorescences); dots = plants with entire-margined sepals; crosses = plants with lacerate-margined sepals. Data based upon specimens at FLAS, FSU, and USF.

lacuum, Chionanthus pygmaeus, Dicerandra frutescens, Eriogonum floridanum, Eryngium cunifolium, Garberia fruticosa, Hypericum cumulicola, Osmanthus megacarpus, Persea humilis, Polygala lewtonii, Prunus geniculata, Quercus inopina, Sabal etonia, and *Warea amplexifolia* (see also Ward, 1979).

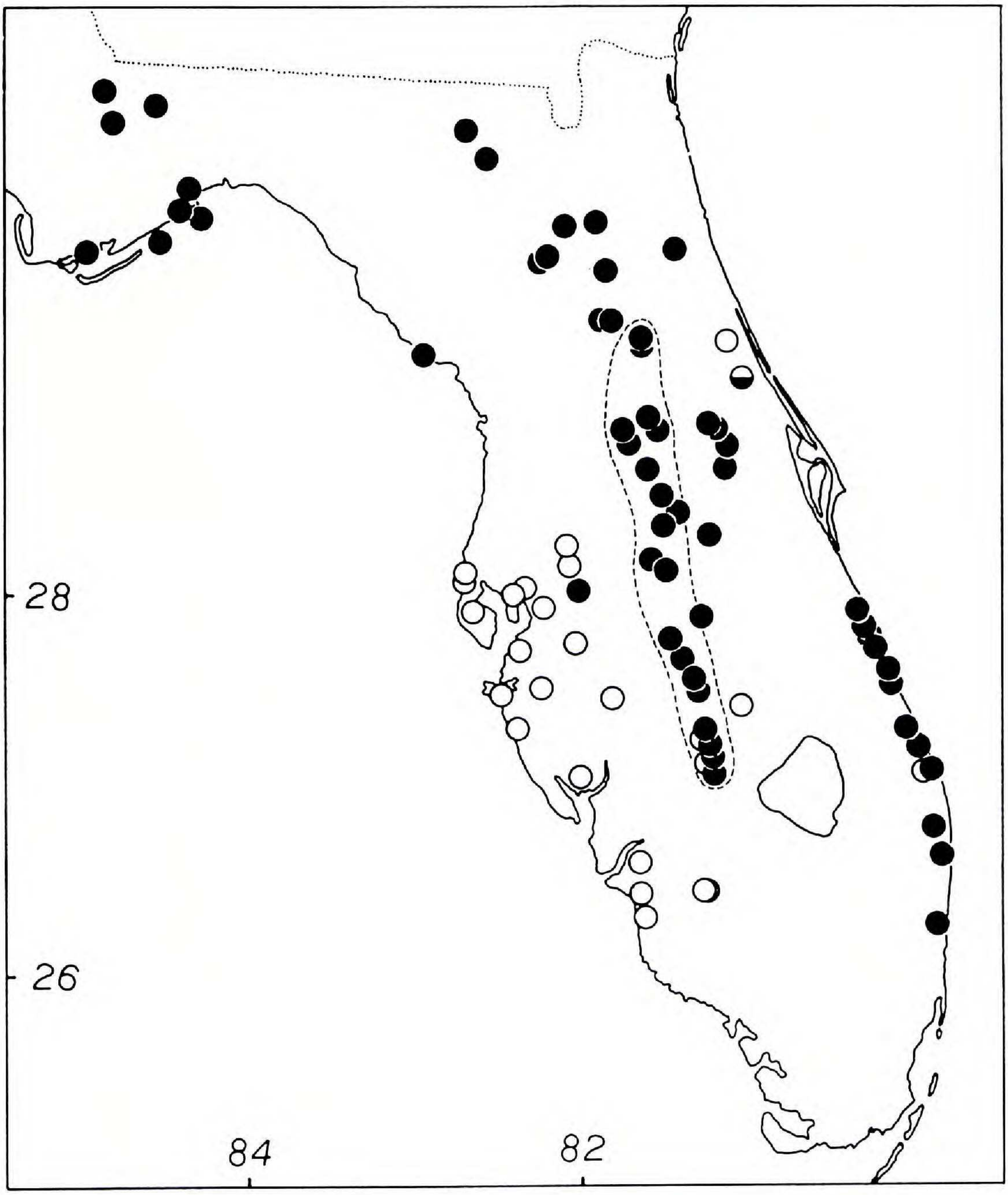

Figure 2. Distribution of *Stipulicida setacea* var. *setacea* (dots), *S. setacea* var. *lacerata* (circles) and intermediate plants (half-shaded circle) within peninsular Florida. Filiformis-like plants essentially restricted to area delimited by dashed line.

It is concluded that *Stipulicida filiformis* merely represents a morphological/ecological extreme of the fairly widespread and variable *S. setacea*, and thus is best treated as a synonym of the latter.

In the course of the above investigation, an interesting, and geographically significant pattern of variation in the sepals was observed. Plants from the Tampa Bay area and southward to northern Collier Co. on the gulf coast have distinctly lacerate sepals, while plants from other regions characteristically have more or less entire-margined sepals (see Figure 2). Such plants have been described as *Stipulicida setacea* var. *lacerata* by James (1957). Intermediate plants are known from Highlands Co. (see James, 1957; *Godfrey 70824* (FSU)) and Volusia Co. (see *Godfrey 78756* (FSU) and *D. S. & H. B. Correll 51934* (USF)). The treatment of these lacerate-sepaled plants as a variety of *S. setacea* seems to be justified. Varieties *lacerata* and *setacea* are essentially allopatric (Figure 2) but occur together in southern Highlands Co. (where intermediates are known), St. John's Co., and Martin Co. Variety *lacerata* has also been reported on the white sand savannas of the Isle of Pines, Cuba (James, 1957). It is noteworthy that the Tampa Bay and southern gulf coast region of Florida supports other endemics or unusual local populations such as *Chrysopsis floridana, Eragrostis tracyi, Schizaea germanii*, and an unusual pubescence form of *Lyonia fruticosa.*

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